

REMARKS

Claims 1-3, 6-8, 32-35, 38 and 40-41 are pending in this application. For purposes of expedition, claims 5, 36-37 and 39 have been canceled without prejudice or disclaimer. Base claims 1 and 32 have been revised to incorporate limitations of claims 5, 36-37 and 39 in order to place the application in condition for allowance.

Claims 1-3, 5-8 and 32-41 have now been rejected under a different statutory provision, 35 U.S.C. §103 as being unpatentable over **newly cited** Noda, U.S. Patent No. 6,175,686 (hereinafter referred to as "Noda '686"), in view of the previously cited Noda, U.S. Patent No. 6,216,245 B1 (hereinafter referred to as "Noda '245") for the same reasons stated on pages 2-8 of the final Office Action (Paper No. 20060306) dated on March 15, 2006. In support of the rejection of base claims 1 and 32, the Examiner asserts that the newly cited Noda '686, as a primary reference, discloses all aspects of Applicants' base claims 1 and 32, except for "the specific use of progression through the partitions of each ECC block occurs diagonally to generate a first recording block" which the Examiner alleges as being disclosed, but no citation has been made, in the previously cited Noda '245.

For purposes of expedition, base claims 1 and 32 have been amended to incorporate limitations pertaining to how ECC blocks are divided, that is, by dividing each of the ECC blocks in a column direction by a predetermined number of bytes into object blocks; and dividing each of the object blocks in row and column directions by the predetermined number of bytes to generate the plurality of partitions such that each of the object blocks has a same number of units in both the row direction and the column direction. As amended, Applicants believe that the rejection should be moot. However, to the extent that the rejection may be still applicable, the rejection should be withdrawn for the following reasons.

Again, the Examiner cites FIG. 6 of the newly discovered Noda '686 for allegedly disclosing Applicants' claimed features, including:

"generating a plurality of error correction code (ECC) blocks of encoded data each of the ECC blocks having a predetermined size in row and column directions;

dividing each of the ECC blocks of the encoded data further in row and column directions to form a plurality of partitions, each partition having a predetermined unit in row and column directions."

According to the Examiner, each ECC block of Noda '686 is partitioned into 16 rows and 182 byte-size columns; and hence, Noda '686 discloses "dividing each of the ECC blocks of the ECC encoded data further into 16 rows and 185 bytes-size columns to form a plurality of partitions, each partition having a predetermined unit in row and column directions."

However, the newly cited Noda '686 discloses nothing more than the same concept disclosed in the previously cited Noda '245. In other words, like Noda '245, Noda '686 only discloses dividing an ECC block in a row direction, as shown in FIG. 5, and does not disclosing any division of an ECC block in a column direction, as alleged by the Examiner. In fact, nowhere in either Noda '686 or Noda '245 is there any disclosure of any partitioning of an ECC block in both row and column directions to form a plurality of partitions.

As previously discussed, each ECC block of Applicants' base claims 1 and 32, is provided with a predetermined size of rows and columns, i.e., N1 bytes of data (row) and N2 bytes of data (column) as shown in FIG. 2A. According to Applicants' base claims 1 and 32, each ECC is further divided both in row and column directions to form a plurality of partitions, in which each partition has a predetermined unit in row and column directions, for example, Partition 1_1, Partition 2-1... Partition d_1 (see 1st row of an ECC block "A" shown in FIG. 2A), and Partition 1_1, Partition d_3 ... Partition 2_2d-1 (see 1st column of an ECC block "A" shown in FIG. 2A).

Like Noda '245, Noda '686 discloses a different interleaving process, one in which input data is also encoded with ECC to generate an ECC block, as shown in FIG. 5, having a size of 172 bytes (in row) and 192 bytes (in column). An inner code parity of 10 bytes and an outer code parity of 16 bytes are further added so that each ECC block is provided with 182 bytes (in row) and 208 bytes (in column). Each ECC block is then further divided, but only in a **row direction**. Specifically, as shown in FIG. 6, each ECC block is divided into 16 (0-15) partitions in the **row direction**. Each of the partitions now has the same 182 bytes (in row), but now has a significantly lower byte count in column, i.e., 12 bytes (obtained by dividing 16 partitions from the original 192 bytes).

As can be seen from FIG. 5, and in contrast to Applicants' base claims 1 and 32, the ECC block of Noda '686 and Noda '245 is **not** divided in a **column direction**, as asserted by the Examiner. FIG. 5 of Noda '686 does **not** teach that each ECC is divided into 208 rows and 182 columns, as mistakenly believed by the Examiner. Rather, FIG. 5 of Noda '245 simply shows the size of an ECC block of 172 bytes in row and 192 bytes in column, and that the ECC block can

be divided into 16 partitions along a row direction, where each partition is provided with the same 172 bytes in row, but only 12 bytes in column.

Of equal importance, Noda '245, as a secondary reference, does **not** remedy the noted deficiencies of Noda '686 in order to arrive at Applicants' base claims 1 and 32. The Examiner relies on Noda '245 for disclosing "the specific use of progression through the partitions of each ECC block occurs diagonally to generate a first recording block" as defined in Applicants' base claims 1 and 32. However, nowhere in Noda '245 is there any such disclosure, and most tellingly, the Examiner has **not** cited or made reference to any specific portion of Noda '245 for disclosing such a feature.

To establish a *prima facie* case of obviousness under 35 U.S.C. §103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and **not** based on Applicants' disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP 2143. In other words, **all the claim limitations must be taught or suggested by the prior art**. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Again, as previously pointed out, the Examiner has made several key assumptions that are not supported, and failed to provide any suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify Noda '245 into Noda '686 in order to arrive at Applicants' base claims 1 and 32. Further, the Examiner's conclusory statement of obviousness does not adequately address the issue of motivation to combine. This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority. It is indeed improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher." W.L. Gore v. Garlock, Inc., 721 F.2d

1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983). Thus, the Examiner must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the conclusion. Any deficiencies of the cited references cannot be remedied by general conclusions about what is "basic knowledge" or "common sense". In re Sang Su Lee, No. 00-1158 (Fed. Cir. 2002).

In the present situation, both Noda '686 and Noda '245 fail to disclose and suggest key features of Applicants' base claims 1 and 32 and their respective dependent claims. Therefore, Applicants respectfully request that the rejection of claims 1-3, 5-8 and 32-41 be withdrawn.

In view of the foregoing amendments, arguments and remarks, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. Should any questions remain unresolved, the Examiner is requested to telephone Applicants' attorney at the Washington DC office at (202) 216-9505 ext. 232. Applicants respectfully reserve all rights to file subsequent related application(s) (including reissue applications) directed to any or all previously claimed limitations/features which have been amended or canceled, or to any or all limitations/features not yet claimed, i.e., Applicants have no intention or desire to dedicate or surrender any limitations/features of the disclosed invention to the public.

INTERVIEW:

In the interest of expediting prosecution of the present application, Applicants respectfully request that an Examiner interview be scheduled and conducted. In accordance with such interview request, Applicants respectfully request that the Examiner, after review of the present Amendment, contact the undersigned local Washington, D.C. attorney at the local Washington, D.C. telephone number (202) 216-9505 ext. 232 for scheduling an Examiner interview, or alternatively, refrain from issuing a further action in the above-identified application as the undersigned attorneys will be telephoning the Examiner shortly after the filing date of this Amendment in order to schedule an Examiner interview. Applicants thank the Examiner in advance for such considerations. In the event that this Amendment, in and of itself, is sufficient to place the application in condition for allowance, no Examiner interview may be necessary.

To the extent necessary, Applicants petition for an extension of time under 37 CFR §1.136. If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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